AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) An optical communication system comprising an optical transmission line disposed between a transmitting end and a receiving end, for transmitting signals of plural channels, and one or more nodes each arranged at a predetermined position ~~of~~ in said optical transmission line and adding signals of a predetermined channel to said optical transmission line, each of said nodes including a transmitter for outputting the signals and a structure for introducing the signals to said transmission line without compensating for the signals from the transmitter,

wherein among signal channels which can be added to said optical transmission line, each of said nodes adds signals of a signal channel at which an absolute value of previously calculated accumulated-dispersion from said node itself to said receiving end becomes smallest, to said optical transmission line[[,]]

~~wherein each of said nodes has no additional chromatic dispersion compensator in an~~ ~~optical path from said transmitter thereof to said optical transmission line~~.

2.   (Previously Presented) An optical communication system comprising an optical transmission line disposed between a transmitting end and a receiving end, for transmitting signals of plural channels, and one or more nodes each arranged at a predetermined position of said optical transmission line and adding signals of a predetermined channel to said optical transmission line,

wherein among signal channels which can be added to said optical transmission line, each of said nodes adds signals of a signal channel at which an absolute value of previously calculated accumulated-dispersion from said node itself to said receiving end becomes smallest, to said optical transmission line, and wherein each of said nodes includes a node control system which

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specifies signal channels which can be added to the optical transmission line, and among said specified signal channels, assigns a signal channel at which the absolute value of accumulated-dispersion from said associated node to said receiving end becomes smallest, to said associated node.

3. (Previously Presented) An optical communication system comprising an optical transmission line disposed between a transmitting end and a receiving end, for transmitting signals of plural channels, and one or more nodes each arranged at a predetermined position of said optical transmission line and adding signals of a predetermined channel to said optical transmission line,

wherein among signal channels which can be added to said optical transmission line, each of said nodes adds signals of a signal channel at which an absolute value of previously calculated accumulated-dispersion from said node itself to said receiving end becomes smallest, to said optical transmission line

the optical communication system further comprising a centralized control system which calculates wavelength dependency of accumulated-dispersion up to said receiving end for each of said nodes, and assigns optimum signal channels to said nodes in descending order of the absolute value of the accumulated-dispersion,

wherein said centralized control system specifies signal channels which can be added to said optical transmission line for every node selected as an assignment object, and among said specified signal channels, assigns a signal channel at which the absolute of the accumulated-dispersion from said selected node itself to said receiving end becomes smallest, to said selected node.

4.   (Original) An optical communication system according to claim 1, further comprising a dispersion compensator arranged at a predetermined position of said optical transmission line.

5.   (Currently Amended) A method of assigning signal channels which assigns a predetermined signal channel to be added to an optical transmission line to each of nodes in an optical communication system, said optical communication system comprising: said optical transmission line disposed between a transmitting end and a receiving end and transmitting signals of plural channels; and one or more nodes each arranged at a predetermined position of said optical transmission line and adding signals of a predetermined channel to said optical transmission line, each of said nodes including a transmitter for outputting the signals and a structure for introducing the signals to said transmission line, without compensating for the signals from said transmitter, said method comprising the steps of:

calculating accumulated-dispersion from each of said nodes to said receiving end; and

assigning, among signal channels which can be added to said optical transmission line, a signal channel at which an absolute value of previously calculated accumulated-dispersion from said node itself to said receiving end becomes the smallest.

~~wherein to each of said nodes, among signal channels which can be added to said optical transmission line, a signal channel at which an absolute value of previously calculated accumulated-dispersion from said node itself to said receiving end becomes smallest is assigned,~~ ~~each of said nodes adding the signals of the assigned signal channel to said optical transmission line while each of said nodes has no additional chromatic dispersion compensator in an optical path from said transmitter thereof to said optical transmission line.~~

6.   (Currently Amended) A method of assigning signal channels which assigns a predetermined signal channel to be added to an optical transmission line to each of nodes in an optical communication system, said optical communication system comprising: said optical transmission line disposed between a transmitting end and a receiving end and transmitting signals of plural channels; and one or more nodes each arranged at a predetermined position of said optical transmission line and adding signals of a predetermined channel to said optical transmission line, said method comprising the steps of:

calculating wavelength dependency of accumulated-dispersion from each of said nodes to said receiving end;

successively selecting said nodes as an assignment object in descending order of an absolute value of the accumulated-dispersion thereof;

specifying signal channels which can be added to said optical transmission line for every node selected as said assignment object; and

assigning, among said specified signal channels, a signal channel at which an absolute value of the accumulated-dispersion from said selected node to said receiving end becomes the smallest.

wherein to each of said nodes, among signal channels which can be added to said optical transmission line, a signal channel at which an absolute value of previously calculated accumulated-dispersion from said node itself to said receiving end becomes smallest is assigned, and

wherein wavelength dependency of accumulated-dispersion up to said receiving end is calculated for each of said nodes;

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said nodes are successively selected as an assignment object in descending order of an ~~absolute value of the accumulated-dispersion thereof,~~

~~signal channels which can be added to said optical transmission line are specified for~~ ~~every node selected as said assignment object, and~~

~~among said specified signal channels, a signal channel at which an absolute value of the~~ ~~accumulated-dispersion from said selected node to said receiving end becomes smallest is~~ ~~assigned to said selected node.~~